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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/269,830	04/01/1999	ALFRED SCHEERHORN	2345/62	1687

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EXAMINER

CALLAHAN, PAUL E

ART UNIT	PAPER NUMBER
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2134

DATE MAILED: 12/27/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/269,830

Applicant(s)

SCHEERHORN ET AL.

Examiner

Paul E. Callahan

Art Unit

2134

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 August 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. Claims 11-23 are pending in this application and have been examined.

Priority

2. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Germany on Oct. 1, 1996.

Claim Rejections - 35 USC § 112

3. The substitute specification filed August 20, 2002 is acceptable and overcomes the rejections of the claims under 35 USC 112 2nd paragraph indefiniteness.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 11-13, 15, 16, 18, 19, 22, and 23, are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Atalla et al., US Patent 5,319,710 Jun. 7, 1994.

As per claim 11, 12, and 15, Atalla teaches a method for transmitting signals between a transmitter and a receiver, the method comprising: Calculating data as a function of a secret key using at least one cryptographic algorithm in a calculation phase, (abstract), Calculating authentication tokens for the signals as a function of the data in a communication phase so as to authenticate both the signals and the transmission sequence of the signals, (abstract, fig. 1, col. 3 line 60 through col. 4 line 10). Atalla teaches generation of a random number (fig. 2A item 52)

As per claim 13, Atalla teaches certain strings of the pseudo-random sequence are used for coding the signals and positions in the transmission sequence (abstract, fig. 3A, 3B, col. 3

lines 60-68 and col. 4 lines 1-29), and wherein the authentication token of one of the signals transmitted at an i-th position is calculated as a function of the coding of the signal and coding of the respective position in the transmission sequence (col. 3 line 60 through col. 4 line 29).

As per claim 16, Atalla teaches certain strings of the pseudo-random sequence are used for coding the signals and positions in the transmission sequence and wherein the authentication token of a one of the signals transmitted at an ith position is calculated as a function of the coding of all previously transmitted signals and the coding of the respective position in the transmission sequence, (col. 2 line 49 through col. 3 line 25, col. 3 line 60 through col. 4 line 29).

As per claims 18 and 19, Atalla teaches a cryptographic algorithm that includes a block cipher including DES (col. 4 lines 1-29).

As per claims 22 and 23, Atalla teaches calculation of another token for authentication of the transmitter, the other token being subsequently transmitted so as to initialize the receiver for authentication of the transmitter and confirming the transmission sequences by non-intersecting m-bit strings (col. 5 lines 5-38).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 14, 17, 20, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Atalla as applied to claim 11 above, and Official Notice taken as detailed below.

8. As per claims 14 and 17, Atalla does not specifically teach the authentication token of the signal transmitted at the i th position is a bit-by-bit XORing of the coding of the one signal and the coding of the respective position in the transmission sequence. Atalla does teach such a combination producing the authentication token (col. 3 line 60 through col. 4 line 27) but not use of an XORing process. However the use of XOR functions in producing MAC codes is old and well known in the art or cryptographic authentication routines, therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to have incorporated this feature into the system of Atalla. It would have been desirable due to the simplicity of implementation of the function and its low computational overhead.

9. As per claims 20 and 21, Atalla does not specifically teach production of a pseudo-random sequence via a block cipher operating in a known output feedback mode. However Official Notice may be taken that generation of pseudorandom sequences in this manner are old and well known in the art. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to have incorporated this feature into the system of Atalla. It would have been desirable to do so as the block cipher is well quantified and the output true randomness can accurately be determined.

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul Callahan whose telephone number is (703) 305-1336. The examiner can normally be reached on M-F from 9 to 6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gilberto Barron, can be reached on (703) 305-1830. The fax phone number for the

organization where this application or proceeding is assigned is Official Faxes: (703) 746-7239,
Unofficial Faxes: 746-7240, After Final Faxes: 746-7238.

Any inquiry of a general nature or relating to the status of this application or proceeding
should be directed to the receptionist whose telephone number is 305-3900.

PEC

12/11/02

Paul Callahan

Gilberto Barron
GILBERTO BARRON
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100